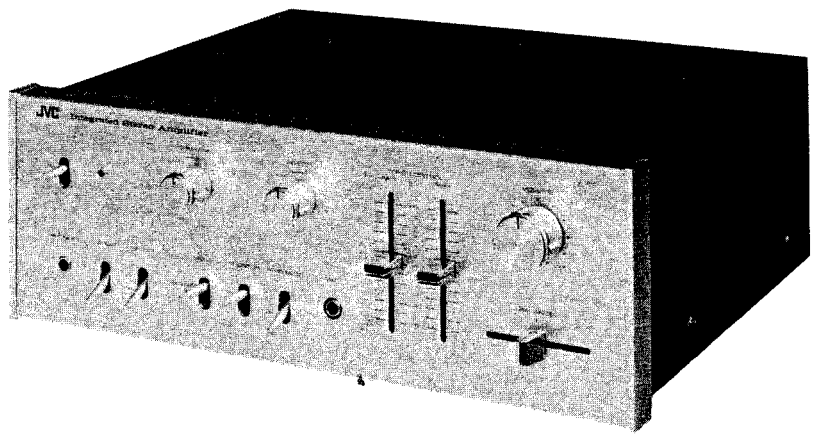
JVC
NIVICO

No. 2286

SERVICE MANUAL



MODEL VN-300

DIMENSIONS : Height 5-1/2", Width 15", Depth 12" **WEIGHT :** Net 15.4 lbs.
Gross 18.6 lbs.

SPECIFICATIONS

AUDIO SECTION

Circuit	:	Single ended push-pull
Total Dynamic Power (IHF)	:	60W (30W× 2) at 4Ω 46W (23W× 2) at 8Ω
Continuous (r.m.s.) Power Both Ch Driven	:	36W (18W× 2) at 4Ω 30W (15W× 2) at 8Ω
Total Harmonic Distortion (at Rated Output)	:	0.5%
Intermodulation Distortion (at Rated Output)	:	1.0%
Power Bandwidth	:	20Hz to 30kHz (IHF)
Load Impedance	:	4 — 16Ω
Damping Factor	:	30 at 8Ω
Frequency Response	:	20Hz to 40kHz ±1.5dB
Signal to Noise Ratio	:	Phone (Mag.) 65dB Aux-1,2 70dB Tuner 70dB Tape Play 70dB
Input Sensitivity for Rated Power	:	Phone (Mag.) 3mV Aux-1,2 120mV Tuner 120mV Tape Mon.(Pin) 120mV (DIN) 120mV
Recording Output	:	Tape Rec. (Pin) 150mV (DIN) 30mV
Bass Control	:	±10dB at 100Hz
Treble Control	:	±10dB at 10kHz
Loudness Control	:	+10dB at 50Hz +6dB at 10kHz
Low Cut Filter	:	−10dB at 50Hz
High Cut Filter	:	−10dB at 10kHz
Power Source	:	AC 100,120,220,240V Selectable (Standard) AC 220V only (Europe) AC 240V only (Australia)
Power Source frequency	:	50/60Hz
Power Consumption	:	60W (UL) 110W (at Rated Power Output)

Packing illustration

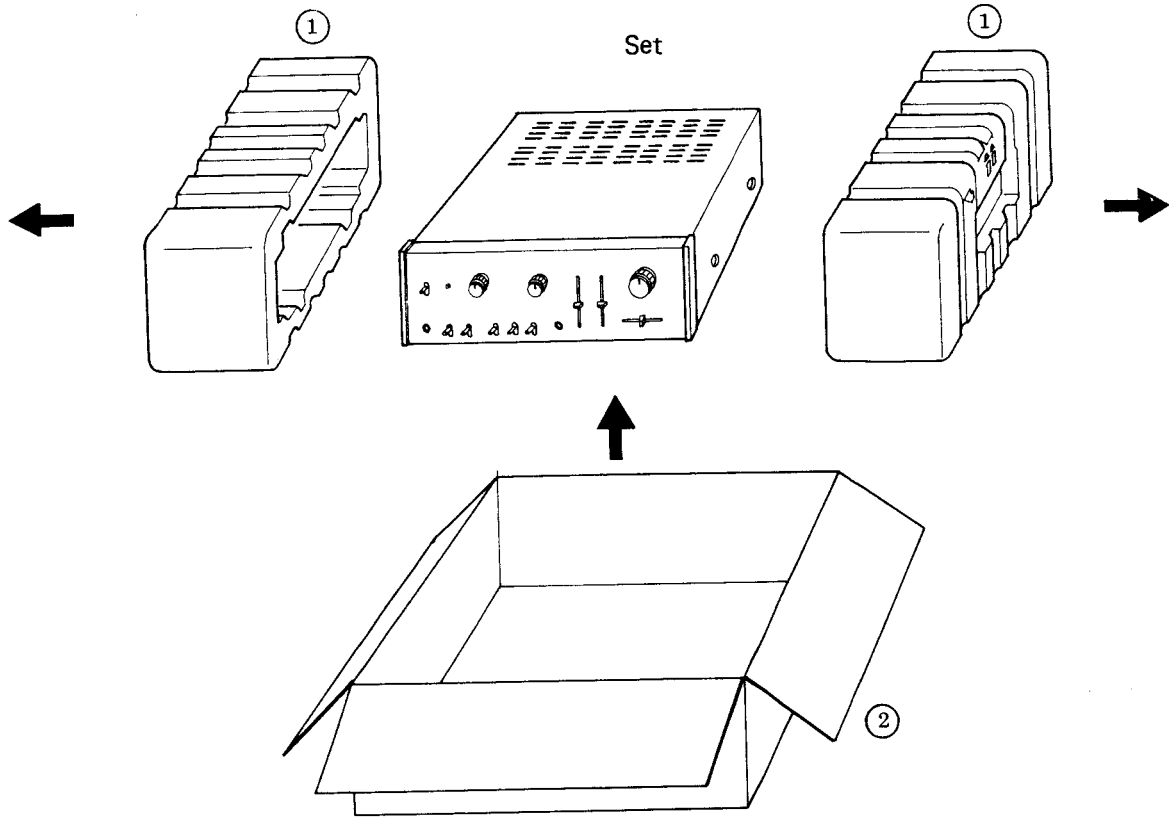


Fig. 1

Dwg. No.	Parts Name	Parts No.
	Envelope	E30673-95
2	Carton Case	VN-300-PK
1	Packing Materials	VN-300-NZ

Accessories

Parts Name	Parts No.					
	Standard	Q'ty	Europe	Q'ty	Australia	Q'ty
Instruction Book	E30580-347A	1	E30580-348A	1	E30580-349A	1
Envelope	E46207-002	1	E46207-002	1	E46207-002	1
Polishing Cloth	E64103-001	1	E64103-001	1	E64103-001	1
Fuse	04112-2.3	1			04112-1.2	2
"	04112-1.2	1				
Fuse Label	E7958-A	1				
Envelope	E64208-001	1	E64208-001	1	E64208-001	1
Schematic Diagram	E30539-352A	1	E30539-353A	1	E30539-354A	1

Main Parts Arrangement

Top View

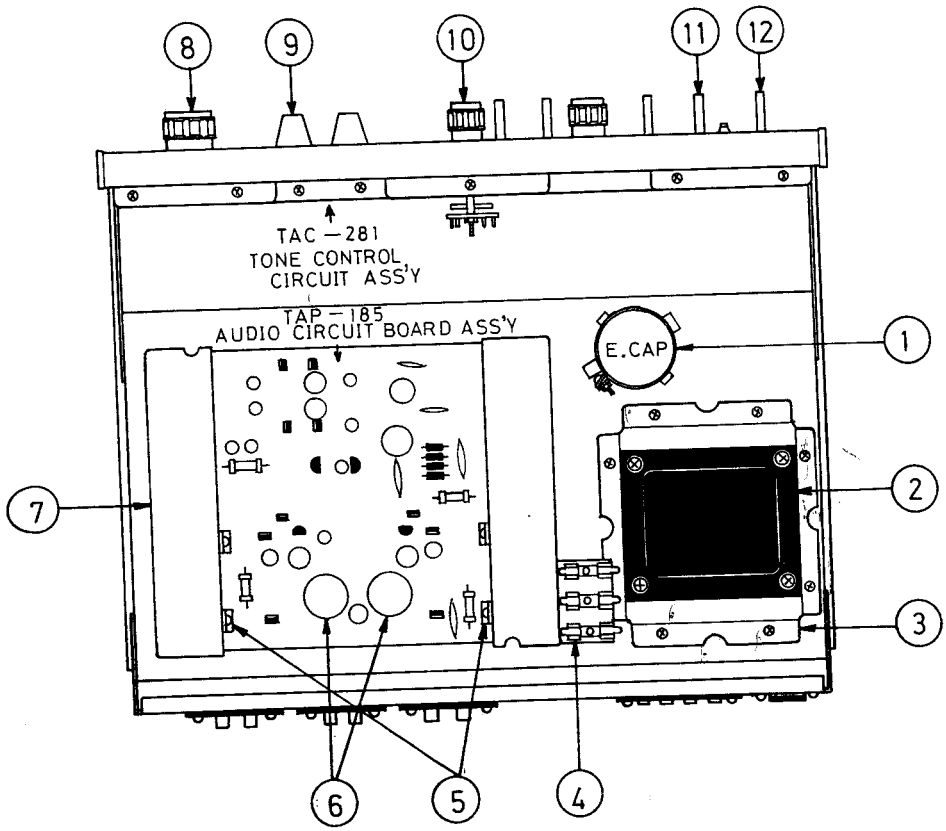


Fig. 2

No.	Parts Name	Parts No.
1	Electrolytic Capacitor	QEY6302-121 2200μF/63V
2	Power Transformer	E03098-25
3	Transformer Bracket	E32726-005
4	Voltage Selector Socket & Plug	E04084 & E04085 (Standard)
4	Fuse Socket Ass'y	Q30213-001 (Europe)
4	Bracket	E46168-002 (Europe)
5	Power Transistor	2SC789Y (Toshiba)
6	Electrolytic Capacitor	Q03588-11
7	Radiator Plate	E32764-002
8	Volume Knob	E47453-004
9	Slide Knob	E48101-002
10	Select Knob	E47454-002
11	Lever Switch	QSL2235-005
12	Power Switch	QSL1135-008 (Standard)
12	"	QSY2220-003 (Australia, Europe)ɔe.

Wire Connection

Power Supply Circuit

Power Transformer

E03098-25

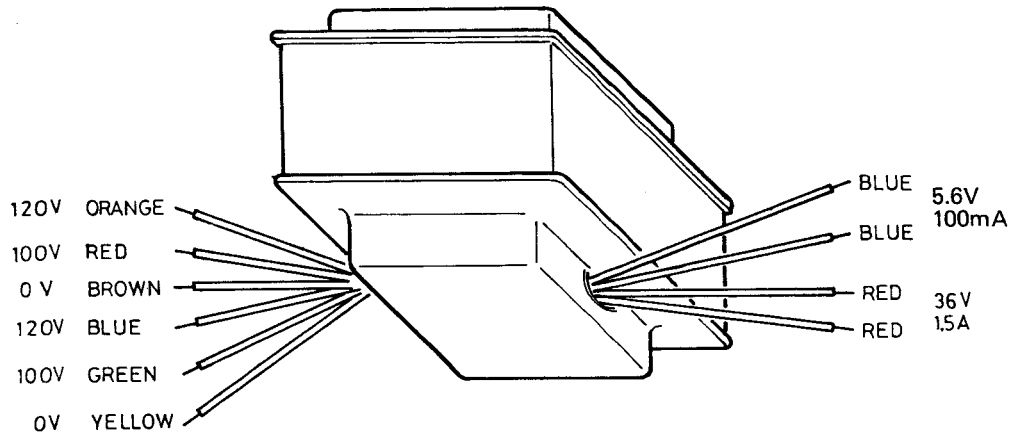


Fig. 3

AC Line Circuit

VN-300 (Standard)

Voltage : 100, 120, 220, 240V Selectable 50/60Hz

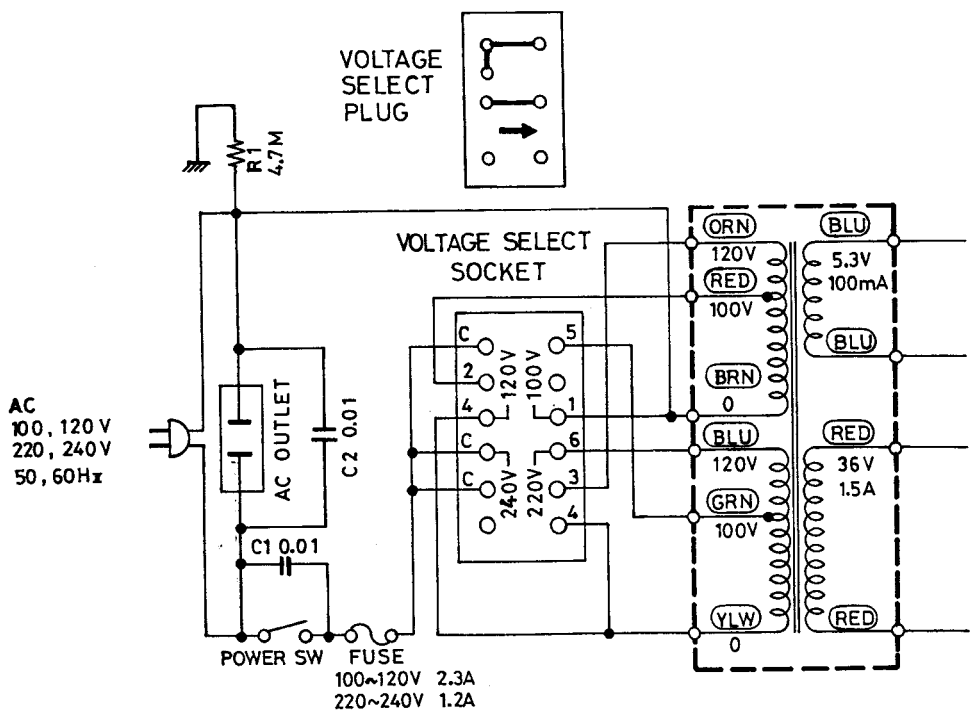


Fig. 4

AC Line Circuit

VN-300 (For Australia) Voltage : 240V 50Hz

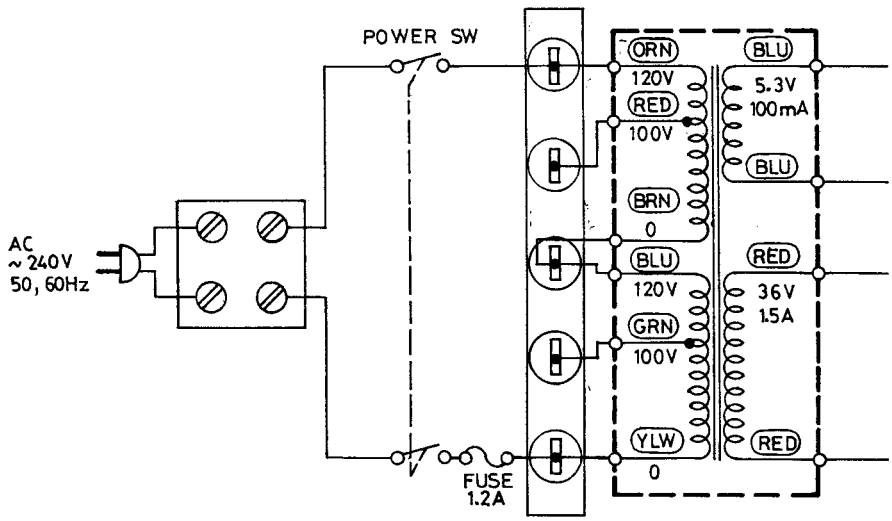


Fig. 5

AC Line Circuit

VN-300 (For Europe)

Voltage : 220V 50/60Hz

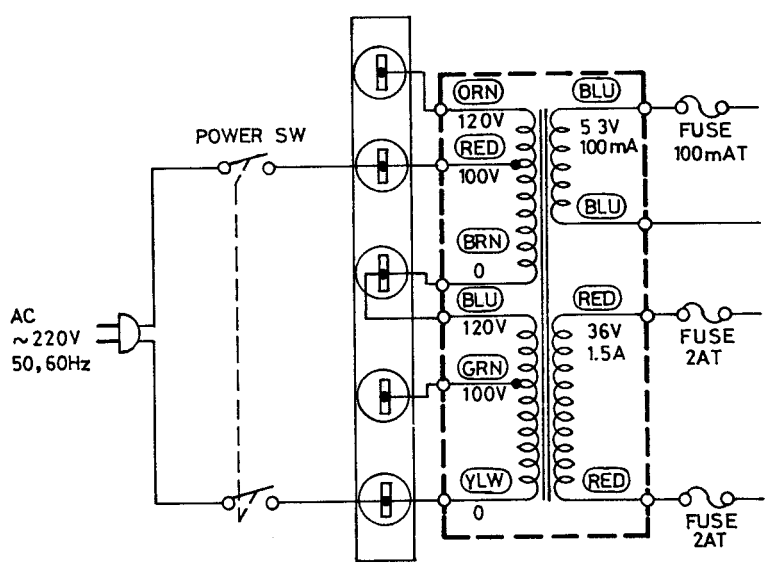


Fig. 6

The List of Main Front Panel Parts for Replacement.

Dwg. No.	Parts Name	Parts No.	Description
1	Slide Knob	E48101-002	
2	Volume Knob	E47453-004	
3	Select Knob	E47454-002	
4	Front Panel Ass'y	E1712-001	
5	Screw	SBSB3008C	
6	Spacer	E45979-007	for Lever Switch
7	Rubber Bushing	E46029-001	for mini Lamp
8	Lock Washer	WAS9000	
9	Front Bracket	E21238-001	
10	Mini Lamp	Q04962-003	6.3V 35mA
11A	Power Switch	QSL1135-008	Standard
11B	Power Switch	QSY2220-003	Europe, Australia
12	Headphone Jack Ass'y	Q03963-001	
13	Rotary Switch	Q03701-11	Speaker Selector
14	Rotary Switch	E03457-001	Selector
15	Mic Jack Ass'y	Q03961-1	
16	Variable Resistor	E0366-21	(Volume)
17	Slide Variable Resistor	QVS4AGW-615	(Balance)
18	Tone Control Bracket	E48202-001	
19	Slide Variable Resistor	E03306-004S	(Tone Control)
20	Lever Switch	QSL2235-005	(Low, High Cut, Loudness, Tape MON. and Mode Switch)
21	Lug Strip Ass'y	Q03001-51	

Exploded View of Front Panel Parts

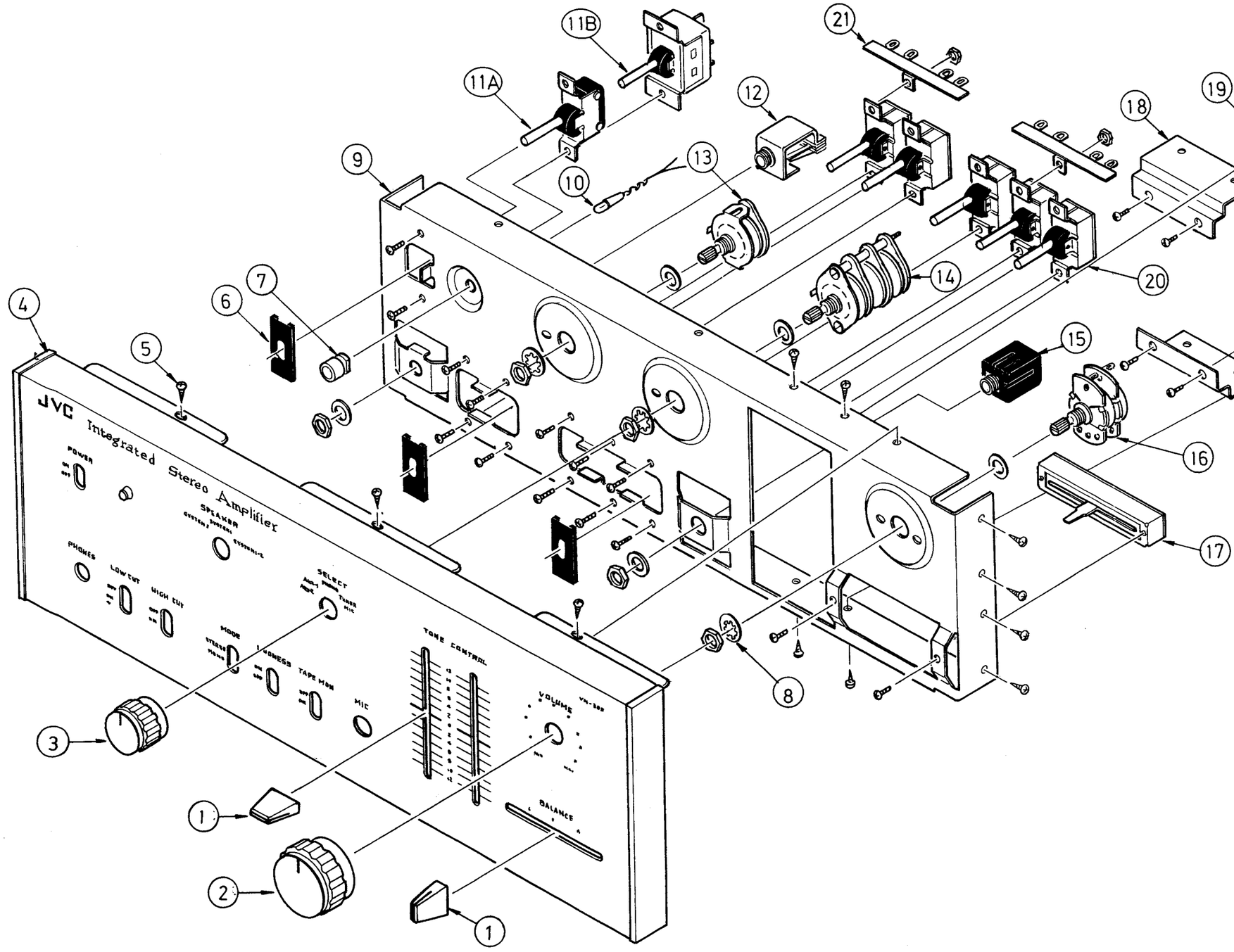


Fig. 7

Exploded View of Rear Panel Parts

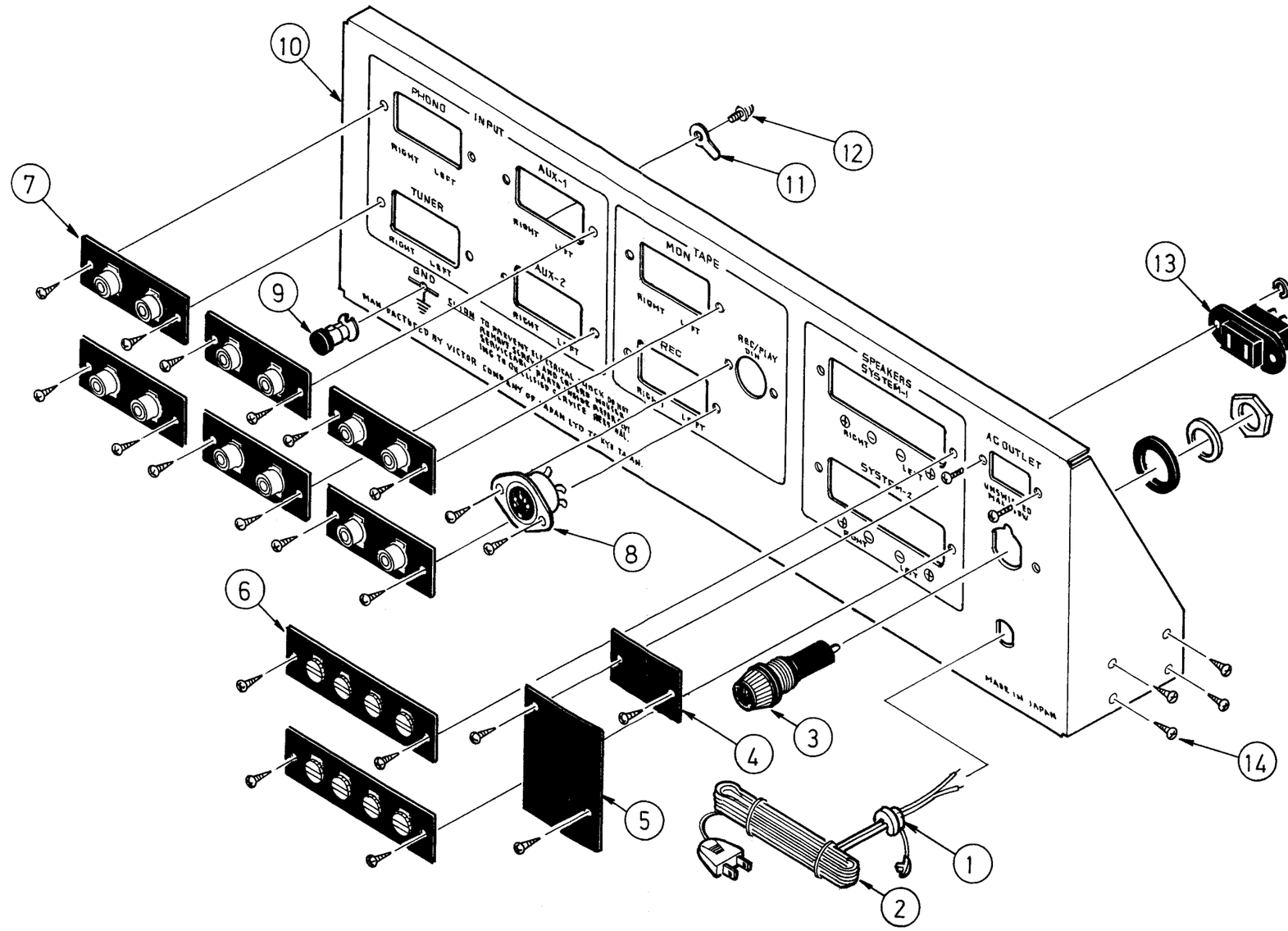


Fig. 8

The List of Rear Panel Parts for Replacement

Dwg. No.	Parts Name	Parts No.		
		Standard	Europe	Australia
1	Cord Stopper	E31704-001	E31704-001	E45816-001
2	Power Cord with Plug	Q03056-14	E46716-001(SEMKO) Q03062-3(SEV)	Q03066-B
	"			
3	Fuse Holder	Q30210-001		E47217-002
4	Plate		E47813-001	
5	Plate		Q30156-002	
6	Terminal	Q30156-002	E6119-D	E6119-D
7	Pin Jack Ass'y	E6119-D	Q03967	Q03967
8	DIN Jack Ass'y	Q03967	E04069	E04069
9	Push Terminal	E04069	E1713-001	E1713-002
10	Rear Panel	E1713-001	E41543-1	E41543-1
11	Earth Lug	E41543-1	LPSP3005NS	LPSP3005NS
12	Screw	LPSP3005NS		
13	AC Outlet	Q30120-001	SBSB3008M	SBSB3008M
14	Screw	SBSB3008M		

CHECK POWER AMPLIFIER CENTER VOLTAGE AND IDLING CURRENT

NOTE : Allow set to warm up at least 10 minutes before starting the following procedure.

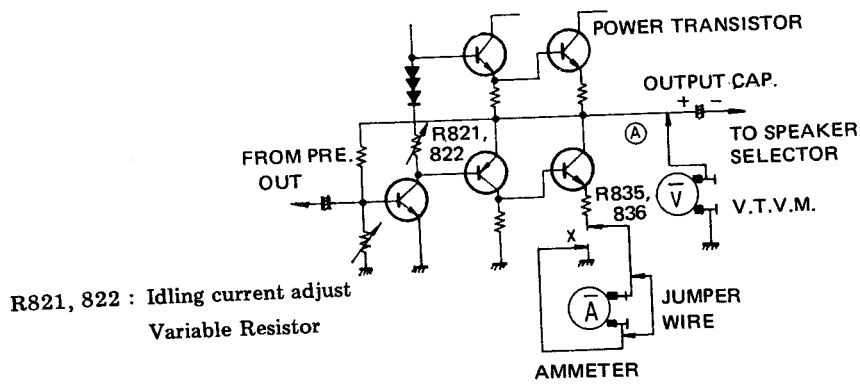


Fig. A

Connection of measurement instrument as shown Fig. A —— This circuit is standard circuit of main amplifier. ——

Turn VOLUME control to minimum.

(1) Connect probe of VTVM to positive pole of output capacitor. And connect ground lead of VTVM to chassis.
(2) Insert ammeter with jumper wire between R835, 836 to chassis as shown Fig. A.

NOTE : jumper wire is used only for the instant of power on to avoid surge current to the ammeter.

Turn POWER SWITCH on.

A. VTVM should read 26 ±1.5V.
B. Ammeter should read 10mA~25mA. If ammeter reading of volume are not 10mA~25mA, adjust R821, 822 for ammeter reading of 10mA~25mA.

TAP-185 AUDIO CIRCUIT BOARD ASS'Y

Main Parts List

No.	Parts No.	Parts Name		Description
1	TAP-185	Circuit Board Ass'y		
2	04091-1K	Composition Resistor		R223
3	Q03110-100	Electrolytic Capacitor	(100μ/25V)	C219
4	Q03112-1	〃	(1μ/50V)	C201,202
5	〃 -5	〃	(4.7μ/50V)	C213,214
6	Q03104-100	〃	(100μ/6.3V)	C215,216
7	Q03106-10	〃	(10μ/10V)	C211,212
8	Q03244-332	Mylar Capacitor		C207,208
9	Q04051-100	Ceramic Capacitor		C209,210
10	Q03244-103	Mylar Capacitor		C205,206
11	Q04051-150	Ceramic Capacitor		C217,218
12	Q46962-1000	〃 〃		C203,204
13	2SC458LGC	Silicon Transistor	(Hitachi)	X201~204
14	2SC1166Y	〃	(Toshiba)	X803~806
15	2SA661Y	〃	(Toshiba)	X807,808
16	2SA493GR	〃	(Toshiba)	X801,802
17	Q03112-1	Electrolytic Capacitor	(1μ/50V)	C801,802
18	Q03110-10	〃	(10μ/25V)	C807,808,815
19	〃 -50	〃	(47μ/25V)	C820
20	〃 -200	〃	(220μ/25V)	C819
21	Q03588-11	〃	(1000μ/35V)	C809,810
22	Q03138-100	〃	(100μ/35V)	C803,804
23	Q04051-51	Ceramic Capacitor		C813,814
24	〃 -33	〃		C805,806
25	Q46962-02	〃		C811,812
26	Q42309-01	〃		C821,822
27	04091-3.9K	Composition Resistor		R815,816
28	〃 -2.2K	〃		R813,814
29	〃 -150	〃		R825,826,829,830
30	〃 -47	〃		R827,828
31	〃 -10	〃		R831,832
32	〃 -2.2K	〃		R837
33	QRDK1J-0RO	Jumping Resistor		
34	E03347-002(N)	M. F. Resistor		R833~836
35	Q04843-2	Variable Resistor		R821,822 1K(B)
36	DS410	Varistor	(Sanyo)	D801~804
37	2SC711F	Silicon Transistor	(Mitsubishi)	X701
38	Q03110-1	Electrolytic Capacitor	(1μ/25V)	C701,702
39	Q03104-100	〃	(100μ/6.3V)	C704
40	〃 -30	〃	(33μ/6.3V)	C703
41	JL953	Silicon Diode	(J.R.C.)	D701,702
42	1S188AM	Ge Diode	(Sanyo)	D703,704
43	FR2-02	Diode	(Fuji)	D601~604
44	Q42309-01	Ceramic Capacitor		C601,603
45	Q03138-1000	Electrolytic Capacitor	(1000μ/35V)	C602
46	04091-5.6K	Composition Resistor		R601

TAP-185 AUDIO CIRCUIT BOARD ASS'Y

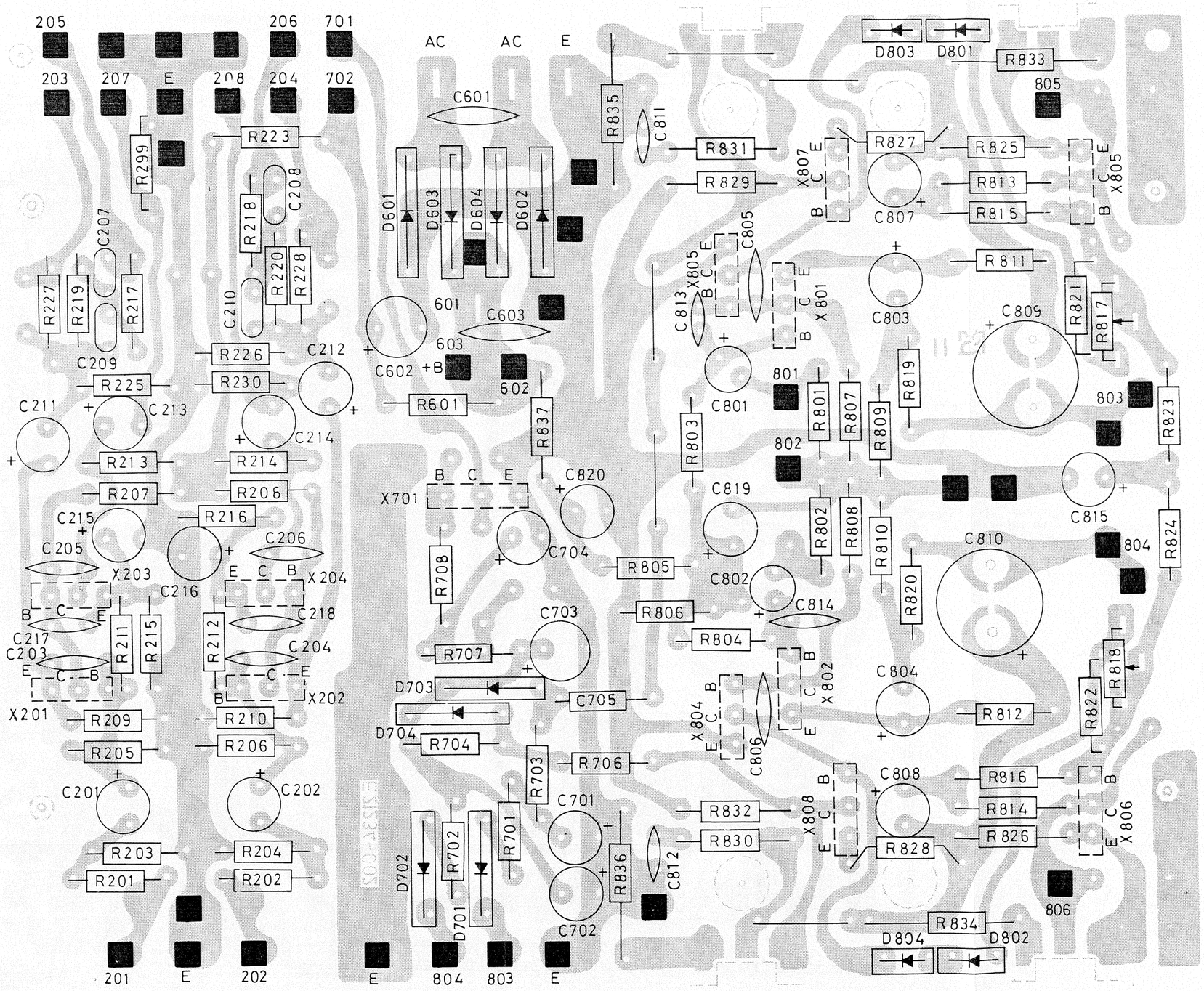
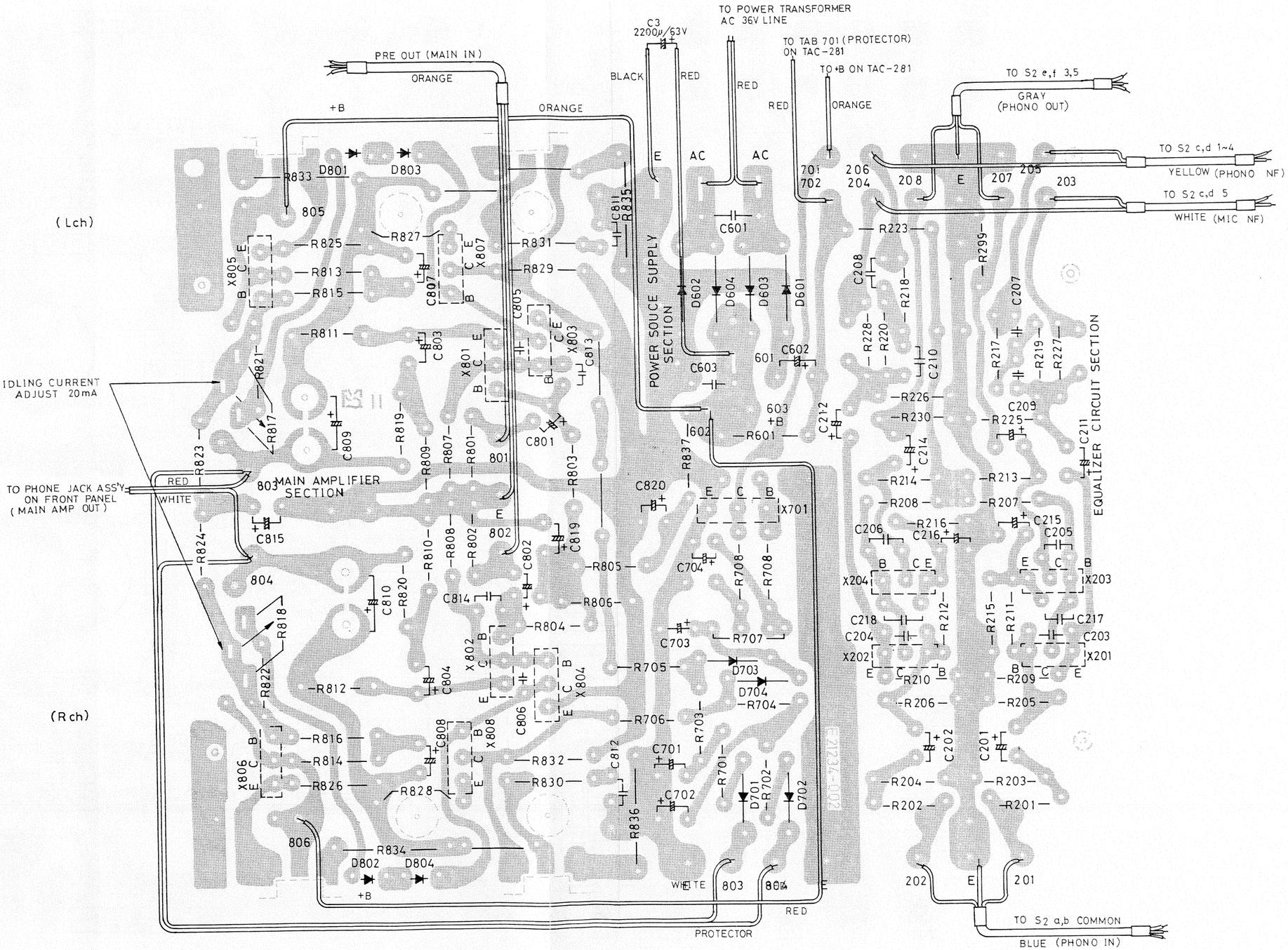


Fig. 9

TAP-185 AUDIO CIRCUIT BOARD ASS'Y


TO POWER TRANSFORMER
AC 36V LINE
C3
2200μ/63V
PRE OUT (MAIN IN)
ORANGE
+B
ORANGE
BLACK
RED
RED
TO TAB 701 (PROTECTOR)
ON TAC-281
TO +B ON TAC-281
RED
ORANGE
TO S2 e,f 3,5
GRAY
(PHONO OUT)
TO S2 c,d 1~4
YELLOW (PHONO NF)
TO S2 c,d 5
WHITE (MIC NF)
(Lch)
(Rch)
IDLING CURRENT
ADJUST 20mA
TO PHONE JACK ASS'Y
ON FRONT PANEL
(MAIN AMP OUT)
RED
WHITE
MAIN AMPLIFIER
SECTION
POWER SOUCE SUPPLY
SECTION
EQUALIZER CIRCUIT SECTION
PROTECTOR
WHITE
RED
TO S2 a,b COMMON
BLUE (PHONO IN)
+B
+B
AC
AC
E
E
E

TAC-281 TONE CONTROL CIRCUIT BOARD ASS'Y

Parts List

No.	Parts No.	Parts Name	Description
1	TAC-281	Circuit Board Ass'y	
2	E48202-001	Tone Control Bracket	
3	E03306-004S	Slide Variable Resistor	R313~316
4	SSSP3005NS	Screw	
5	E43727-002	Tab	
6	2SC458LGC	Transistor (Hitachi)	X301, 302
7	Q03112-1	Electrolytic Capacitor (1μ/50V)	C301, 302
8	Q03110-10	〃 (10μ/25V)	C307, 308, 319
9	〃 -100	〃 (100μ/25V)	C320
10	Q03104-100	〃 (100μ/6.3V)	C321, 322
11	Q03244-102	Mylar Capacitor	C309,310
12	〃 -103	〃	C313,314
13	〃 -153	〃	C315,316
14	〃 -104	〃	C317,318
15	Q46962-1000	Ceramic Capacitor	C303,304
16	Q04051-10	〃	C305,306

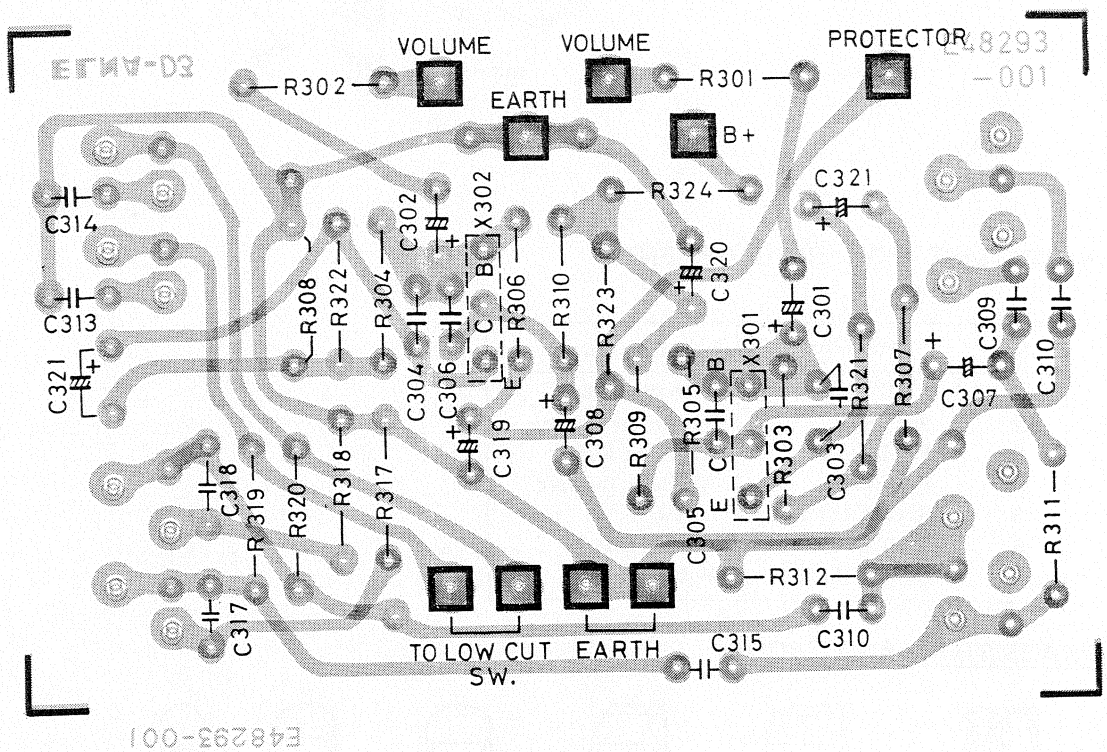


Fig. 11

Note : A sort of Resistor's parts Number Shown below.

Parts	Sort of Resistor	
Q04800-	Carbon Resistor	¼W
04091-	Composition Resistor	½W

For example : Q04800-1K Carbon Resistor 1kΩ ¼W
04091-5.6K Composition Resistor 5.6kΩ ½W

When you order resistor, write required resistor value in addition to the right-hand of hyphen.

EXPLODED VIEW OF POWER TRANSISTOR AND RADIATION PLATE

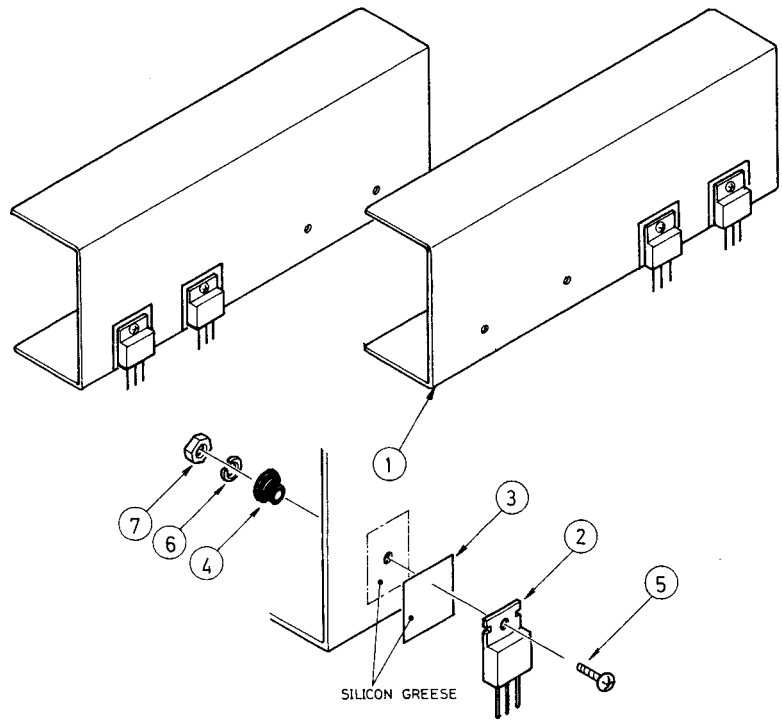


Fig. 12

PARTS LIST FOR REPLACEMENT

No.	Parts No.	Parts Name
1	E32764-002	Radiation Plate
2	2SC789Y	Power Transistor
3	E45069-001	Insulator Film
4	E41541-15	Insulator Bushing
5	SPSP3010NS	Screw
6	WLS3000	Lock Washer
7	NNZ3000ZS	Nut

TRANSISTOR AND DIODE

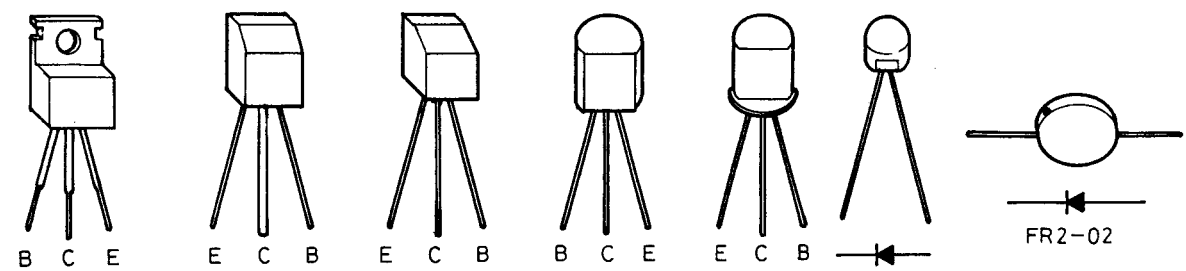


Fig. 13

WIRE CONNECTION

Front Bracket
Back View

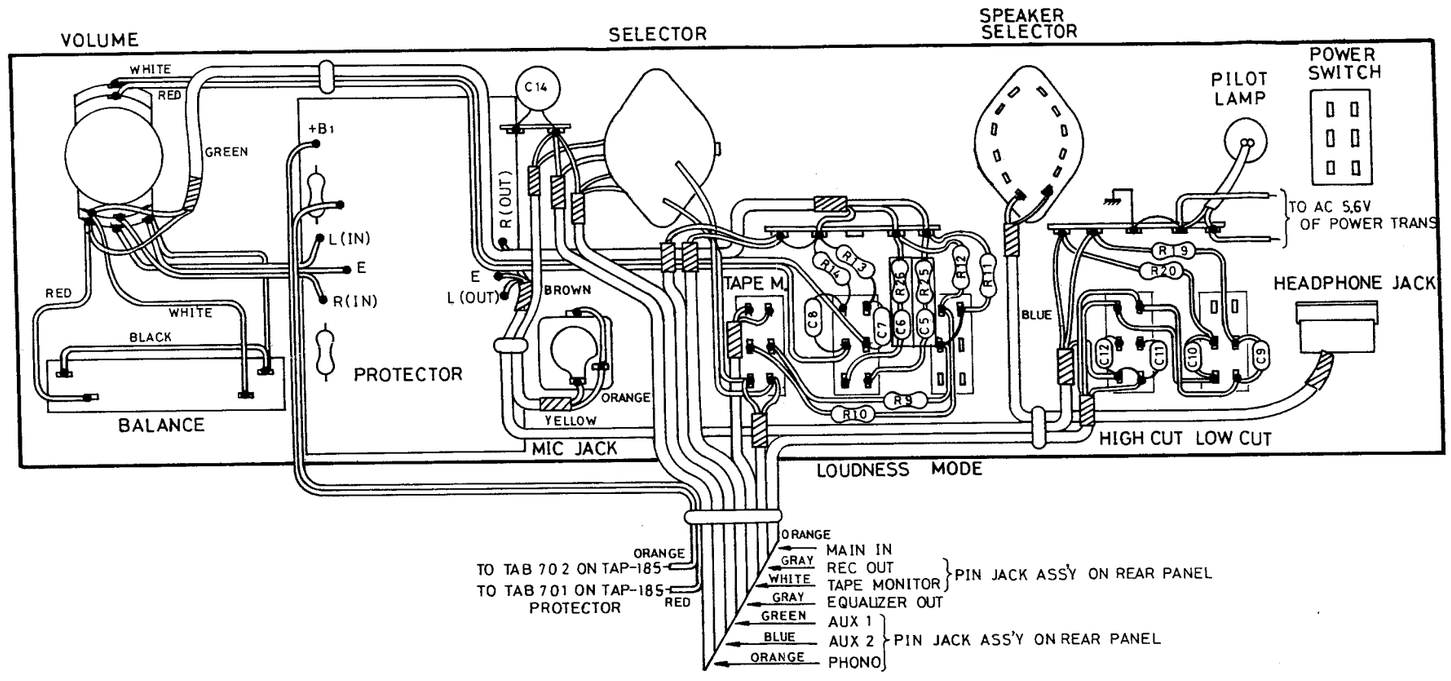


Fig. 14

Selector S2

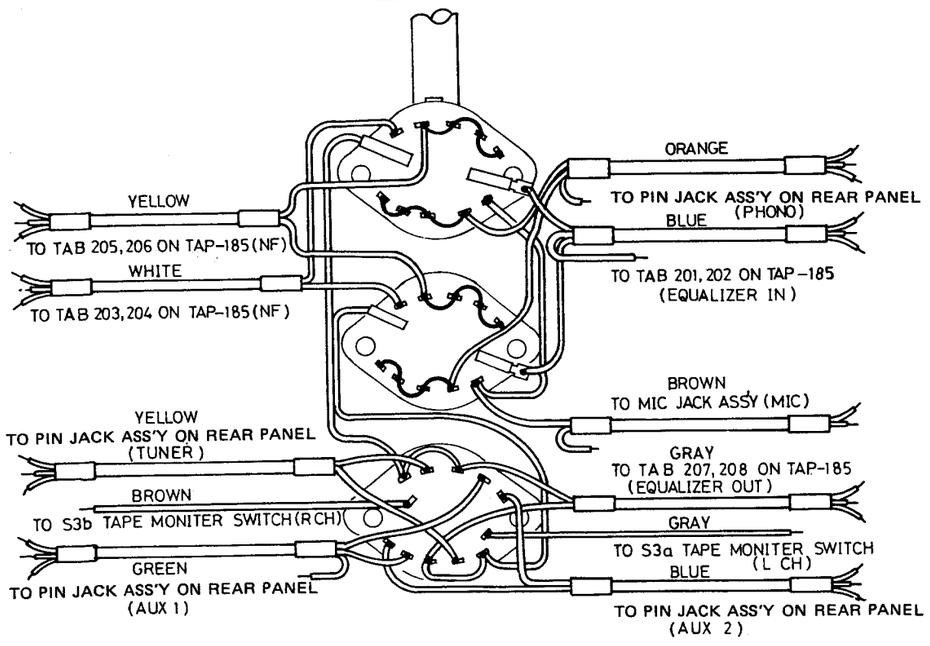

ORANGE
TO PIN JACK ASS'Y ON REAR PANEL (PHONO)
YELLOW
BLUE
TO TAB 205, 206 ON TAP-185 (NF)
TO TAB 201, 202 ON TAP-185 (EQUALIZER IN)
WHITE
TO TAB 203, 204 ON TAP-185 (NF)
BROWN
TO MIC JACK ASSY (MIC)
YELLOW
TO PIN JACK ASS'Y ON REAR PANEL (TUNER)
GRAY
TO TAB 207, 208 ON TAP-185 (EQUALIZER OUT)
BROWN
TO S3b TAPE MONITER SWITCH (R CH)
GRAY
TO S3a TAPE MONITER SWITCH (L CH)
GREEN
BLUE
TO PIN JACK ASS'Y ON REAR PANEL (AUX 1)
TO PIN JACK ASS'Y ON REAR PANEL (AUX 2)

Fig. 15

Speaker Selector S8

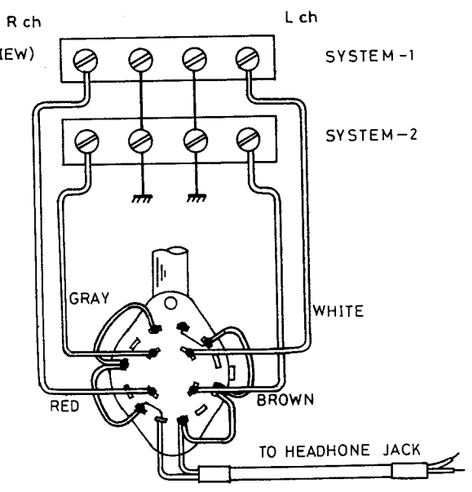


Fig. 16

Headphone Jack

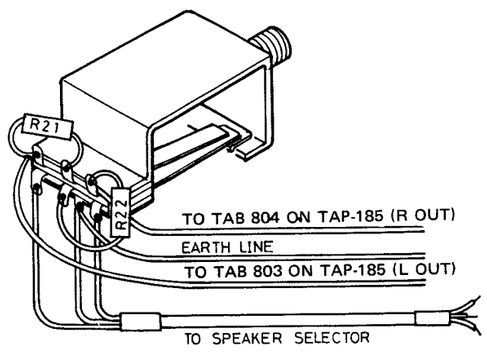
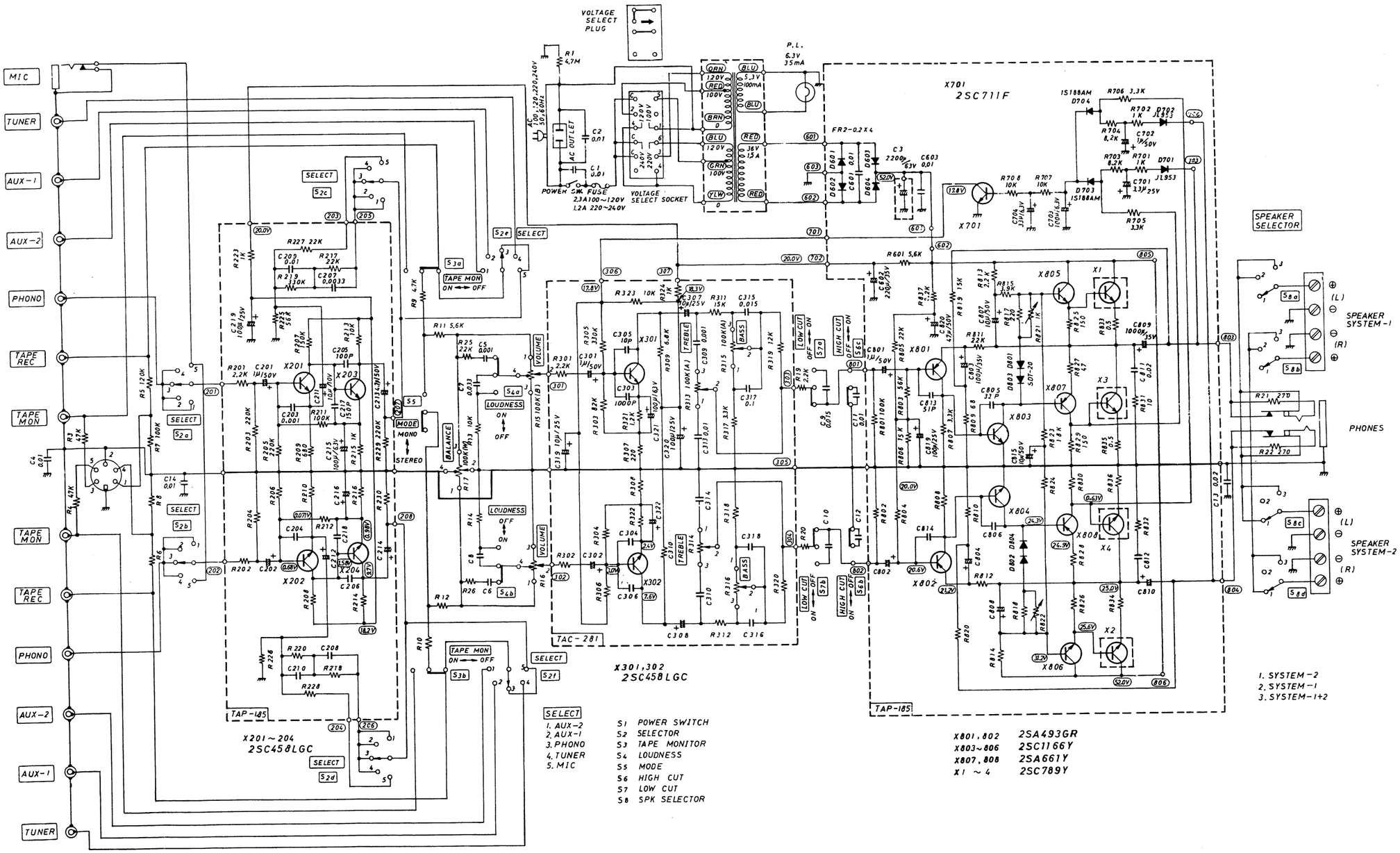


Fig. 17



Schematic Diagram of Model VN-300

Subject to change without notice

The List of Main Parts for Replacement

Parts Name	Q'ty	Parts No.		
		Standard	For Europe	For Australia
Lever Switch (Power Switch)	1	QSL1135-008	QSY2220-003	QSY2220-003
AC Socket	1	Q30120-001	E47813-001	E47217-002
Plate	1			
Voltage Selector Plug	1	E04085		
Voltage Selector Socket	1	E04084		
Bracket (For Fuse Holder Ass'y)	1		E46168-002	
Fuse Holder Ass'y	3		Q30213-001	
Fuse	1	04112-2.3 (100~120V)	E46760-0.1 (100mAT)	
Fuse	1	04112-1.2 (220~240V)	Q04742-2 (2AT)	04112-1.2 (240V)
Fuse Label	1		E46264-001 (100AT)	
Fuse Label	2		E46264-006(2AT)	Q30124-001
Fuse Socket	1	Q30210-001		
M.M. Capacitor	2	OFH72EM-103M		
Power Cord with Plug	1	Q03045-14	Q03062-3(SEV)	Q03006-B
			E46716-001 (SEMKO)	
Power Cord Stopper	1	E31704-001	E31704-001	E31704-002
Fuse Label	1	E45314-003		E43716-004
Composition Resistor	1	04091-4.7M		
Caution Sheet	1	E47187-001		
"	1	E47187-002		
"	1	E47187-003		
Schematic Diagram	1	E30539-352A	E30539-353A	E30539-354A
Instruction Manual	1	E30580-347A	E30580-348A	E30580-349A
Earth Label	1		E45358-001	
Insulator Bushing	1		E5629-1	
Plug Cover (AC Plug Cover)	1		E46981-001 (SEMKO)	E48251-001
Rear Panel	1	E1713-001	E1713-001	E1713-002
Terminal Board (For AC Line Cord Connector)	1		E46310-001	E46310-001
Rating Label	1	E47330-057	E47330-058	E47330-059
Power Cord Connector	1			SBSB3016NS
Ass'y Screw				LPSP3010NS
Nut				NNZ3000N
Washer				WNB3000N
Earth Label				E45358-001

Check Point after Repair

Please make sure the following respect when repair completes.

1. Normal gain and output are obtained.
2. Both high and low range of audio frequency are not decreased exceptionally.
3. Bass and treble controls operate normally.
4. High and low cut switches operate normally.
5. Hum is practically not appreciable.
6. No abnormal oscillations occur in PHONO or others section

The List of JVC NIVICO Service Manual

(Phonograph)

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2131	STP-808A	2141	5320, 5340	2151(B)	5040 (R#-2)	2161	4333U	2171	5202
2132	ARC-41, 42	2142	L-311D	2152	SSL-46E SSL-46EA	2162	MPX-18B	2172	5220
2133	TRE-666C	2143	6102, 6103, 6104	2153	MSL-300ES	2163	MCA-104E	2173	ARC-15A
2134(B)	4TR-990DX (a)	2144	ARC-10	2154	4330	2164	SEA-100E/5100	2174	4344, 4344U
2135	5001	2145	5011/PST-1000E 5012/MST-1000E	2155	N-404, N-404Y	2165	5240B	2175(B)	4450, 4450U
2136	SRP-B30E/5230	2146	5201	2156(B)	MSL-501E	2166	4330U	2176	CSL-130SE
2137	N-65F	2147	MSL-300E	2157	N202, 303	2167	MCA-105E/5107	2177	5020/5020U
2138	4TR-511D,L511D	2148	5310	2158	4211	2168	5030/5030U	2178	MTR-10ME
2139(B)	SRP-B40E/5240	2149	MSL-110S	2159(B)	4333U, 4333	2169	SRC-900	2179	5010L
2140	5203	2150	5205	2160	5010	2170	5200	2180	4TR-1000

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2181(B)	4400, 4400U	2191	MCM-105E/5111	2201	MSL-201L	2211	BLA-500E	2221	4431U
2182	ARC-50	2192	5395	2202	MSL-201S	2212	MCT-V7E	2222	4310U
2183	MCT-105E/5108	2193	MSL-201E	2203	4431	2213	5306	2223	N303FYE, N203FY
2184	SCR-500	2194	MCA-V7E	2204	4310	2214	N203/Run No. 2	2224	MCA-104Z
2185	4330M	2195	SRC-800	2205	N-303YE	2215	5250U	2225	MSL-501E MSL-201E
2186	N-404F Series	2196	5301/GB-2E	2206	5500	2216	5444/5444U	2226	MCP-105E
2187	5325, 5335	2197	5390	2207	5540	2217	5910	2227	MCA-V9E
2188	MSL-501L	2198	5321	2208	MTR-15ME	2218	MCT-V5E	2228	MCA-V5E
2189	MSA-404E	2199	5341/5341K	2209	5550/5550U	2219	5100	2229	ECA-102
2190	N-202FMY	2200	5331/5331K	2210	5351/5351K	2220	5020/5020U 5030/5030U 5040/5040U	2230	5345

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2231	CD4-1E	2241	4344U (R#-2)	2251	VR-5501	2261	VS-5307	2271	VN-700
2232	SRP-473E	2242	MS-4431, 4311U	2252	VN-5101	2262	VR-5511	2272	4MD-10X
2233	N-404FMY #3	2243	MF-4440	2253	VS-5308	2263	4DD-10	2273	VP-10, VB-10
2234	SEA-V7E	2244	MF-4451	2254	VS-5332	2264	5911	2274	VS-5313
2235	MSL-502ES	2245	QSL-F777E	2255	VS-5352	2265	VT-700	2275	VN-900
2236	VS-5391	2246	MF-4430	2256	VS-5342	2266	4ME-4801	2276	GB-1ED
2237	VS-5396	2247	4MM-4600	2257	VS-5322	2267	VS-5399	2277	MSL-602L
2238	5520/5520U	2248	VR-5501L	2258	VR-5541	2268	4VN-770	2278	MSL-302L
2239	VR-5521L	2249	VR-5521	2259	VR-5551	2269	VP-100	2279	4VN-550
2240	4ME-4800	2250	4VR-5445	2260(B)	4VR-5414	2270	VB-100	2280	VT-500

No.	Model	No.	Model	No.	Model	No.	Model	No.	Model
2281	4VN-990								
2282	N-404FMY-4								
2283	4MM-1000								
2284	4VN-880								
2285	CSL-135E								
2286	VN-300								
2287									
2288									
2289									
2290									

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